

## CLAIMS

What is claimed is:

- 5        1.        A system configured to interact with a virtual bus interface that is configured to produce a bus-type transaction from a point-to-point type transaction, the system comprising:  
              a detection logic configured to detect whether the point-to-point transaction to be processed by the virtual bus interface includes a data-type field that stores a data from which a value for a header-type field in a bus-type transaction can be produced; and  
10              a decode logic operably connected to the detection logic, the decode logic being configured to extract the data from the data-type field, to process the data into the value, and to selectively store the value in the header-type field in the bus-type transaction.
- 15        2.        The system of claim 1, where the detection logic detects whether the point-to-point transaction includes a data-type field that stores a data from which a value for a header-type field can be produced by examining a transaction type associated with the point-to-point transaction.
- 20        3.        The system of claim 1, where the decode logic extracts the data from the data-type field in a bit-field wise manner.
- 25        4.        The system of claim 3, where upon detecting that a point-to-point transaction stores a data from which a value for a header-type field can be produced, the detection logic generates a signal that is distributed to one or more of the decode logic and the virtual bus interface.
- 30        5.        The system of claim 1, where the bus-type transaction comprises a front-side bus transaction.
- 30        6.        A virtual bus interface system, comprising:  
              a point-to-point transaction logic configured to receive a packet associated with a point-to-point transaction;  
              a bus-type transaction logic operably connected to the point-to-point transaction logic, the bus-type transaction logic being configured to produce a bus-type transaction

corresponding to the point-to-point transaction from the packet associated with the point-to-point transaction;

a detection logic operably connected to the point-to-point transaction logic, the detection logic being configured to detect whether the packet associated with the point-to-point transaction includes a data flit that encodes a non-memory-data value; and

a decode logic operably connected to the detection logic and the bus-type transaction logic, the decode logic being configured to extract the non-memory-data value from the data flit, to decode the non-memory data value, and to selectively provide the decoded non-memory-data value to the bus-type transaction logic.

7. The system of claim 6, where the detection logic detects whether the packet associated with point-to-point transaction includes a data flit that encodes a non-memory-data value by examining a transaction type associated with the point-to-point transaction.

8. The system of claim 7, where the decode logic extracts the non-memory-data value from the data flit in a bit-field wise manner.

9. The system of claim 6, where upon detecting that that packet associated with the point-to-point transaction includes a data flit that encodes a non-memory-data value, the detection logic generates a signal that is distributed to one or more of, the point-to-point transaction logic, the bus-type transaction logic, and the decode logic.

10. The system of claim 6, where the virtual bus interface produces a bus transaction for a front-side bus.

11. A computer configured with a virtual bus interface system, the virtual bus interface system comprising:

a point-to-point transaction logic configured to receive a packet associated with a point-to-point transaction;

a bus-type transaction logic operably connected to the point-to-point transaction logic, the bus-type transaction logic being configured to produce a bus-type transaction corresponding to the point-to-point transaction from the packet associated with the point-to-point transaction;

a detection logic operably connected to the point-to-point transaction logic, the detection logic being configured to determine whether the packet associated with the point-to-point transaction includes a data flit that encodes a non-memory-data value; and

a decode logic operably connected to the detection logic and the bus-type transaction logic, the decode logic being configured to extract the non-memory-data value from the data flit, to decode the non-memory data value, and to selectively provide the decoded non-memory-data value to the bus-type transaction logic.

12. A method, comprising:

in a virtual bus interface, detecting a completion event associated with receiving a point-to-point transaction to be processed into a bus-type transaction by the virtual bus interface;

determining whether the point-to-point transaction includes a data flit that stores a value to be processed into a header-type field in the bus-type transaction, and

upon determining that a data flit stores a value to be processed into a header-type field in the bus-type transaction:

selectively extracting the value from the data flit; and  
producing a header-type value from the extracted value.

13. The method of claim 12, where determining whether the point-to-point transaction includes a data flit that stores a value to be processed into a header-type field includes examining a transaction type associated with the point-to-point transaction.

14. The method of claim 13, where the value is extracted in a bit-field wise manner from the data flit.

15. The method of claim 14, including:

establishing a decode function for a point-to-point transaction type in which a data flit encodes a non-memory data value; and

upon determining that a data flit encodes a non-memory data value, passing the data flit to an established decode function.

16. A computer-readable medium storing processor executable instructions operable to perform a method, the method comprising:

in a virtual bus interface, establishing a decode function for a point-to-point transaction type in which a data flit encodes a non-memory data value;

5 detecting a completion event associated with receiving a point-to-point transaction to be processed into a bus-type transaction by the virtual bus interface;

determining whether the point-to-point transaction includes a data flit that stores a value to be processed into a header-type field in the bus-type transaction by examining a transaction type associated with the point-to-point transaction;

10 upon determining that a data flit stores a value to be processed into a header-type field in the bus-type transaction, passing the data flit to an established decode function, and storing a decoded value returned from the decode function.

17. A system, comprising:

15 means for determining whether a point-to-point transaction available to a virtual bus interface includes a data flit that stores non-memory-data information that will be stored in a bus-type header-type field;

means for bitwise field extracting the non-memory-data information from the data flit; and

20 means for decoding the extracted non-memory-data information and making the decoded non-memory-data information available to a virtual bus interface logic configured to produce a header-type field for a bus-type transaction.

18. A set of application programming interfaces embodied on a computer-readable medium for execution by a computer component in conjunction with producing a header-type field for a bus-type transaction from non-memory-data information stored in a data flit in a point-to-point type transaction, comprising:

25 a first interface for communicating the data flit that encodes the non-memory-data information;

30 a second interface for communicating a non-memory-data value extracted from the data flit; and

a third interface for communicating a header-type data value for the bus-type transaction, where the header-type data value is produced from the non-memory-data value extracted from the data flit.